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A New Species of *Crotaphopeltis* (Serpentes: Colubridae) from Barotseland, Zambia

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In 1962 Richard Japp presented a collection of Barotseland reptiles and amphibians to Field Museum of Natural History. This includes five snakes from Kalabo which belong to the genus *Crotaphopeltis*. Four specimens (FMNH 133041, 134253-5) are the common and widespread species *C. hotamboeia* (Laurenti), but the fifth represents an undescribed form. As this snake may be endemic to the Barotse floodplain, it is named:

Crotaphopeltis barotseensis, new species. Figures 1 and 2.

Holotype.—Field Museum of Natural History No. 134249, an adult female collected at Kalabo, Barotseland, Zambia, 24 March 1962 by Mr. Richard G. Japp (field number 1216).

Diagnosis.—A form of *Crotaphopeltis* differing from other species in the genus by having the upper postocular separated from the supraocular by a forward prolongation of the parietal, which enters the orbit. Dorsal scale rows 17-17-13: both *hotamboeia* and *degeni* normally have 17-19-15 rows, although the former may have 21 rows anteriorly (*ruiziensis* Laurent, 1963), while *tornieri* normally has 17-17-15 rows (Loveridge, 1933). In *barotseensis* and *degeni* the dorsal scales are smooth, glossy and iridescent, but in *hotamboeia* and *tornieri* the posterior dorsals are feebly keeled. The head of *barotseensis* is narrower than in the other forms, with a high rostral and no expansion in the temporal region.

Description.—Head distinct from neck; snout rounded; eye with a vertical pupil; body sub-cylindrical; tail 13.6 per cent of total length.

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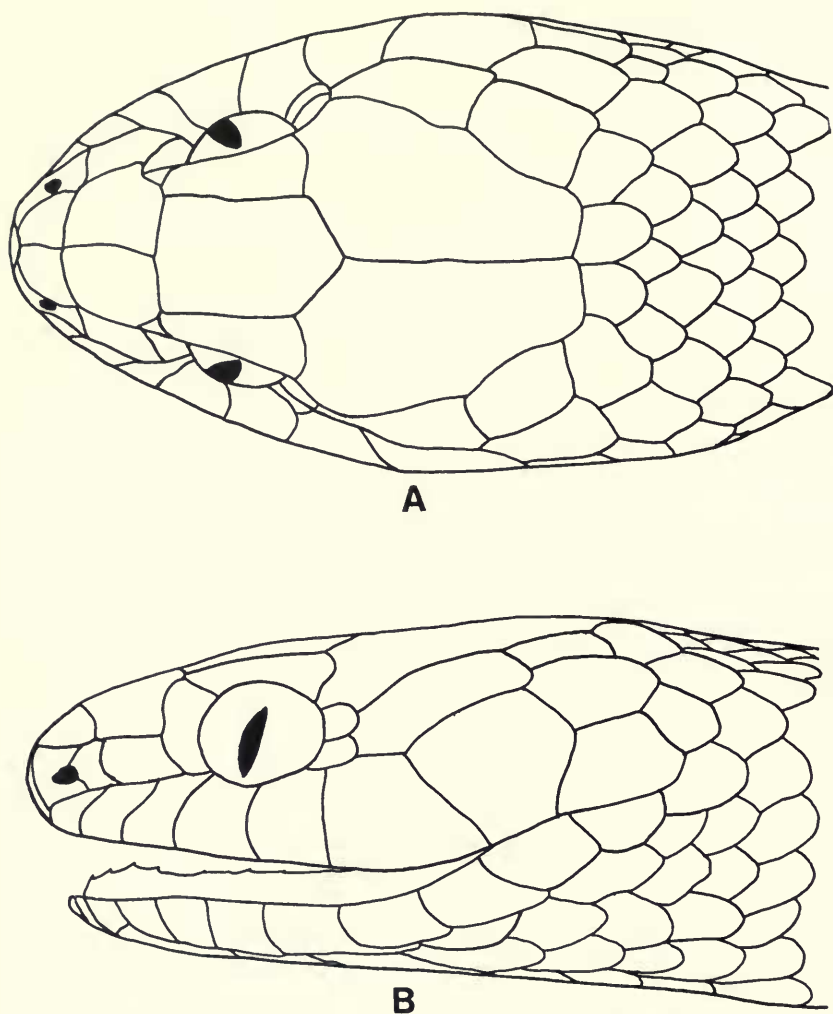


FIG. 1. Dorsal (A) and lateral (B) views of the head of holotype (FMNH 134249) of *Crotaphopeltis barotseensis*.

Rostral almost as deep as broad, barely visible from above; internasals two-thirds length of prefrontals; frontal straight-sided, 1.6 times as long as broad, longer than its distance from end of snout, two-thirds length of parietal; nasal divided, the posterior half excavate; loreal longer than deep; preocular 1, narrowly separated from frontal; postoculars 2, subequal in size, the upper separated from the supraocular by the parietal (fig. 1b); temporals 1+2; upper labials 8,

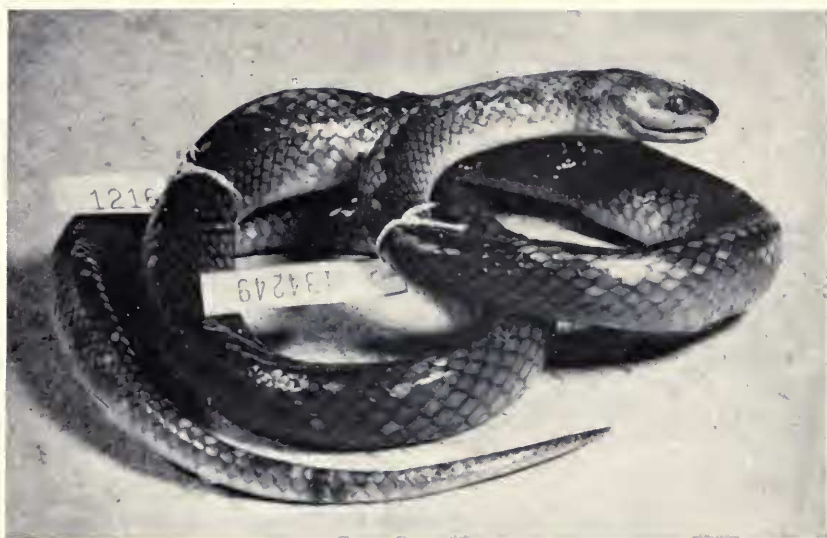


FIG. 2. Holotype (FMNH 134249) of *Crotaphopeltis barotseensis*.

the third, fourth and fifth entering the orbit; lower labials 10, the first five in contact with the anterior sublinguals, which are subequal to the posterior pair.

Dorsal scales quite smooth and iridescent with well-defined single apical pits, scale row reduction formula: $17 \frac{3+4}{3+4} (99)$ $15 \frac{6+7}{6+7} (110)$ 13 .

Ventrals 158, smooth; anal entire; subcaudals 38 pairs, smooth.

Maxillary dentition $15+II+1$.

Coloration.—In alcohol: light grey-brown above, the scales dark-edged, gradually passing to paler brown below. No dark temporal patches.

Dimensions.—Head and body 470 mm., tail 74 mm. Head 20 mm. long, 12 mm. wide.

Habitat.—The upper Zambezi floodplain in Barotseland. This form may eventually be found on the Kafue Flats in Zambia, also in the Okavango-Chobe swamplands of northern Botswana.

Discussion.—It seems desirable to review the species included in the genus *Crotaphopeltis*. I agree with Gans and Laurent (1965) that the recognition of races of *C. hotamboeia* should be deferred until this wide-ranging species can be properly revised on a pan-African basis.

Crotaphopeltis degeni (Boulenger) has usually been recognized as a valid species (Pitman, 1938), but *C. tornieri* (Werner) was placed

TABLE 1.—Comparison of four species of *Crotaphopeltis*.

Character	<i>barotseensis</i>	<i>tornieri</i>	<i>degeni</i>	<i>hotamboeia</i>
dorsal scale rows	17 - 17 - 13	17 - 17 - 15	17 - 19 - 15	17 - 19 - 15 19 - 19 - 15 19 - 21 - 15 19 - 21 - 17 21 - 21 - 17
dorsal scales	smooth	feebly keeled posteriorly	smooth	feebly keeled posteriorly
ventrals	158	145 - 175	169 - 178	141 - 180
subcaudals	38	35 - 56	30 - 40	29 - 65
preoculars	1, not in contact with frontal	usually 2, rarely 1, often in contact with frontal	1, not in contact with frontal (rarely 2)	1, not in contact with frontal (rarely 2)
postoculars	2, subequal, upper not in contact with supraocular	2 (rarely 3), upper largest & in contact with supraocular	2, upper largest & in contact with supraocular	2 (rarely 1), upper largest & in contact with supraocular
Frontal length/breadth ratio	1.6	1.1 - 1.3	1.4 - 1.6	1.4 - 1.6
Maxillary dentition	15 + II + 1 (one maxilla)	16 + II + 1 (one maxilla)	17 to 18 + II + 0 (after Underwood)	13 to 16 + II + 1 (various sources)
Habitat	floodplain	montane evergreen forest	floodplain	savanna
Temperament	?	inoffensive	fairly placid	irascible and vicious

as a subspecies of *C. hotamboeia* by Barbour and Loveridge (1928) and Bogert (1940) questioned its validity. I have re-examined the Rungwe Mountain series in the American Museum of Natural History and find that two specimens (AMNH 38986, 39203) are *tornieri*, the other four are *hotamboeia*. Sympatry at this locality establishes that *C. tornieri* is a good species. Table 1 compares the four species of *Crotaphopeltis* here recognized. I follow Laurent (1951) in including the arboreal species *duchesnii* (Boulenger), *werneri* (Boulenger) and *shrevei* (Loveridge) in the genus *Dipsadoboa*.

It would appear that an ancestral form had three postoculars (a variant in *C. tornieri*, and very rarely in *C. hotamboeia*). In *tornieri*, *degeni* and *hotamboeia* the upper two postoculars have fused, but in *barotseensis* the upper postocular has fused with the parietal, which consequently enters the orbit.

The smooth and shiny dorsal scales of *barotseensis* and *degeni* may indicate convergence rather than common ancestry. Both forms occupy semi-aquatic habitats.

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